



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,610	11/14/2000	Carl John Lindeborg	SYNER-174XX	9609
207	7590	04/29/2004	EXAMINER	
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP TEN POST OFFICE SQUARE BOSTON, MA 02109			NGUYEN, QUANG N	
			ART UNIT	PAPER NUMBER
			2141	2

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

70

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/712,610	LINDEBORG ET AL.
	Examiner	Art Unit
	Quang N. Nguyen	2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 14 November 2000.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 November 2000 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

***Detail Action***

1. This Office Action is in response to the application SN 09/712,610 filed on 11/14/2000. Claims 1-27 are presented for examination.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murthy et al. (US 6,545,982), herein after referred as Murthy, in view of Bare (US 6,580,715).**

4. As to claim 1, Murthy teaches a method for monitoring, enabling, disabling ports of a multi-ports packet-based bridge, comprising:

monitoring an intra-hub communication path of a network hub to detect a first data unit on said intra-hub communication path having a destination address matching a first predetermined address (*i.e.*, *broadcast/multicast address*) (Murthy, C6: L32-59);

storing a source MAC address of said detected first data unit (Murthy, C7: L34-40);

forwarding said detected first data unit onto a plurality of external communication ports (Murthy, C6: L56-59);

monitoring said plurality of external communication ports to detect a second data unit having a destination address matching said first predetermined address received at a respective one of said plurality of external communication ports (Muller, C9: L4-8);

However, Murthy does not explicitly teach that in the event that said source MAC address of said second detected data unit matches said stored source MAC address, disabling operation of said respective one of said plurality of external communication ports at which said second detected unit was received.

In the related art, Bare teaches a method for enabling detection and correction of improperly configured loops, wherein to recognize when multiple external loops exist, the switch uses the matching technique of the source MAC address in the received packet such as if a switch sees its own hello on multiple ports (*i.e., the source MAC address of the detected second data unit matches the said stored MAC source address*) and the source MAC addresses received are the same on those multiple ports then only a single loop exists and all but one port is blocked (*disabled*) to break any loops (Bare, C20: L6-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Murthy and Bare to disable operation of the respective one of plurality of external communication ports at

which said second detected unit was received when the source MAC address of the second detected data unit matches said stored source MAC address since such methods were conventionally employed in the art (using the spanning tree topology and learning bridge) to recognize, detect and correct improperly configured multiple external loops to manage redundant communication paths while permitting improved bandwidth utilization of all communication links in a network and balancing of loads among such redundant communication paths.

5. As to claim 2, Murthy-Bare teaches the method of claim 1, wherein said predetermined destination address is a media access control layer bridge multicast address (*i.e., broadcast/multicast address*) (Murthy, C6: L56-60).

6. As to claim 3, Murthy-Bare teaches the method of claim 1, further comprising discarding said detected second data unit without any forwarding of said detected second data unit over any of said plurality of external communication ports (*i.e., since the receiving ports are disabled then the detected data unit would be automatically discarded/filtered*) (Murthy, C9: L12-17) and Bare, C79: L40-48).

7. As to claims 4-5, Murthy-Bare teaches the method of claim 1, further comprising sending a message to a network management entity within said network hub indicating that said one of said plurality of external communication ports has been disabled (Murthy, Supervisory Access Terminal 12 in Fig. 1 and Bare, C20: L23-32).

8. As to claim 6, Murthy-Bare teaches the method of claim 1, wherein said detected first data unit and said detected second data unit are bridge protocol data units (*Murthy teaches to prevent infinite duplication and propagation of a packet from network loops, the learning bridge implements a “spanning tree algorithm” well defined by IEEE Standard 802.1d. Hence, Murthy inherently teaches configuration messages such as BPDUs typically need to be exchanged among networking devices within a network to facilitate determination of a spanning tree*) (Murthy, C8: L1-11).

9. As to claim 7, Murthy-Bare teaches the method of claim 1, further comprising periodically clearing said stored copy of said source MAC address of said detected first data unit (Murthy, C7: L46-51 and C16: L24-37).

10. As to claim 8, Murthy-Bare teaches the method of claim 1, further comprising:  
monitoring said plurality of external communication ports to detect a data unit of a predetermined type (*i.e., its own hello packet*); and  
in the event that a data unit is detected of said predetermined type, disabling a respective one of said plurality of external communication ports at which said detected data unit of said predetermined type was received (Bare, C20: L6-20).

11. As to claim 9, Murthy-Bare teaches the method of claim 8, wherein said step of monitoring said plurality of external communication ports to detect a data unite of said predetermined type comprises monitoring said plurality of external communication ports to detect a router protocol data unit (*using a device which combines router and bridge functionality known as "brouter"*) (Murthy, C9: L20-30).

12. Claims 10-18 are corresponding apparatus claims of method claims 1-9; therefore, they are rejected under the same rationale.

13. Claims 19-27 are corresponding system claims of method claims 1-9; therefore, they are rejected under the same rationale.

14. Further references of interest are cited on Form PTO-892, which is an attachment to this office action.

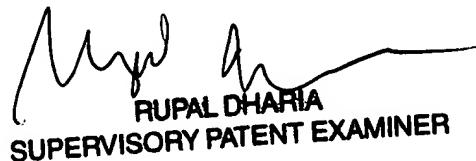
15. A shortened statutory period for reply to this action is set to expire THREE (3) months from the mailing date of this communication. See 37 CFR 1.134.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (703) 305-8190.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (703) 305-4003. The fax phone number for the organization is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Quang N. Nguyen



RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER